Allied Health Personnel in Cancer Detection

Utilization of Proctosigmoidoscopic Technicians in Detecting Abnormalities of the Lower Bowel

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The use of allied health personnel in early cancer detection was precipitated by an involvement in automated multiphasic health testing at the Straub Clinic in Honolulu, Hawaii. The Health Appraisal Center itself evolved out of the conviction that it was absolutely impossible for physicians on a one-to-one basis to screen large numbers of apparently well individuals for significant disease. Internists, in particular, were most outspoken about the misuse of their time in repetitive, low-yield diagnostic maneuvers. They felt that properly trained technicians and nurses could do much of what they were doing. Accordingly, high-school graduates with little or no medical background were trained to do basic procedures such as vision and hearing tests, venipunctures, and simple laboratory tests such as hemoglobin and urinalysis. They were also trained to take and screen-read electrocardiograms and chest roentgenograms.[1] The registered nurses were trained to perform screening, physical examinations for the presence or absence of abnormalities.[2] This included a Pap smear for carcinoma of the cervix, and palpation of the breast. The nurses also gave the patients instructions on breast self-examination.

Patients over 39 years of age were routinely referred from the HAC for proctoscopies. The gastrointestinal surgeon who performed the majority of the proctoscopies soon found that a great deal of his time was being spent in routine proctoscopies with resultant decrease in time available for major abdominal surgery. Also, the economics of having a highly trained surgeon perform routine proctoscopies on asymptomatic patients did not work out to the advantage of either patient or physician. The charge for the proctoscopic examination was almost the same as for an entire examination in the HAC. It was decided that a person with some medical background could be trained to do routine proctoscopies. A former Army corpsman commenced training for this position in March 1969.

Training the Proctosigmoidoscopic Technician

It was anticipated that a training period of approximately 6 months would be necessary. However, since the trainee had previously worked in a medical environment, he readily adapted to the clinical setting. Within 3 months, he had acquired a technical competence in proctoscopic examination that was comparable to that of his physician preceptor. His training included formal discussions with the physician, study of pertinent literature, observation of proctoscopies and, finally, actual performance of proctoscopies under direct supervision of the physician.

The technician's responsibilities included administration of enemas to male patients, explanation of proctoscopic procedures to all patients, performance of proctologic examinations on asymptomatic or minimally symptomatic patients, and scheduling patients for necessary laboratory and roentgenographic studies. He also took the initial history pertinent to the ano-rectal problem. On symptomatic patients, the physician performed the proctoscopic examination, and the proctoscopic technician observed the procedure and the pathology, if found.

After performing 2515 proctoscopic examinations over a period of 18 months, the technician participated in training his replacement, another corpsman, who underwent a similar training. The latter conducted more than 4000 proctoscopic examinations in the 28 months he has been with the clinic. Boredom became a real problem for the technician after he performed some 2000 proctoscopies. Assisting the supervising physician in the operating room with further responsibilities in care of patients now relieves

Table 1.—Pathology Found in 1972, Ano-Rectal Clinic, Straub Clinic and Hospital, Inc.

Pathology	Technician	Physician
Hemorrhoids	378	202
Fissure and anal ulcer	59	82
Carcinoma	3	13
Mucosal excressence	61	20
Proctitis	12	21
Hypertrophic and papillae	81	20
Carcinoid	1	3
Villous adenoma	5	2
Polyps	75	59
Ulcerative colitis	0	15
Unspecified	3	13
Pruritis ani	13	2
Baron ligation of hemorrhoids	25	55
Melanosis coli	3	2
Diverticula	6	2
Followup carcinoma	2	35
Total symptomatic	727	546
Total asymptomatic	1074	553
Total proctoscopies	1801	1099

Table 2.—Patient satisfaction with Proctosigmoidoscopies and Associated Care by Proctoscopy Technician

Degree of satisfaction	Number of patients
Very satisfied	39
Moderately satisfied	7
Not satisfied	0
Total patients interviewed	46

Of the 46 patients interviewed, 7 had previous proctosigmoidoscopies by a physician. These patients were asked to compare the care received by the technician with that of the physician. The results are as follows:

Comparison of technician-administered proctosigmoidoscopy with physician-administered proctosigmoidoscopy	Number of patients
Better than physician	3
Same as physician	3
Not as good as physician	1

this boredom and reduces the possibility of lapse in quality of the examinations.

Results of the Proctosigmoidoscopic Examinations

Table 1 illustrates pathology found by the physicians and technicians in 1972. Although there were 3 carcinomas found by the technician, compared with 13 found by the physician, it is to be remembered that symptomatic patients were referred to the physician, and asymptomatic patients to the technician. Similarly, no cases of ulcerative colitis were found by the technician, whereas the 15 cases found by the physician were originally referred to him as symptomatic patients, and most had the diagnosis of ulcerative colitis at the time of referral. Both physician and technician attempt to introduce the proctosigmoidoscope 25 cm without producing undue discomfort to the patient. Both reach this depth in slightly over one-half of the patients examined.

Cost

The cost of the proctoscopic examination to the institution per visit is approximately $8.70 for the procto-technician, not including physician supervision, as compared to $14.70 for a proctoscopy performed by the physician.

Acceptance

Probably the best guide to patient acceptance is the willingness of patients to return in subsequent years for a proctoscopy by the technician. We have had several informal guides as to patient acceptance, the first from the supervising physician who notes that the proctoscopic technician in general takes more time with the proctoscopic examination, and includes what might be termed *vocal* anesthesia in discussing the procedure with the patient prior to and during the examination. The supervising surgeon has noted a very high level of patient acceptance in having the procedure done by the proctoscopic technician. On scheduling the patients for a subsequent proctoscopic examination, the referring physicians have observed no reluctance to having the procedure done by the technician. To put this in more objective terms, registered nurses who were trained interviewers not associated with Straub Clinic interviewed a sample of the patients. Of 46 patients interviewed after the procedure, none was dissatisfied with the proctoscopy being performed by the technician (Table 2).

Summary

Proctoscopic examinations on the apparently well or minimally symptomatic individual can be safely conducted by individuals with corpsman background, who can be trained to levels of competence within 2 to 3 months. No complications were noted in 6500 proctoscopies performed by technicians over a 4-year period. This has produced a savings to the patient and institution, with a patient acceptance equal to that of having the procedure performed by a physician. As expressed by Dr Joseph Strode, one of the most respected senior surgeons in Hawaii, "Any clinic faced with the problem of routine proctoscopic examinations in a significant number of individuals would do well to enlist the services of a properly trained technician."[3]

References

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